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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,438	06/12/2001	Michael Miettinen	442-010339-US(PAR)	3541
2512	7590	07/09/2010		
Perman & Green, LLP 99 Hawley Lane Stratford, CT 06614				
EXAMINER				
PILLAI, NAMITHA				
ART UNIT		PAPER NUMBER		
2173				
MAIL DATE		DELIVERY MODE		
07/09/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

09/879,438

Applicant(s)

MIETTINEN ET AL.

Examiner

NAMITHA PILLAI

Art Unit

2173

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-32, 34-38 and 40-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-32, 34-38 and 40-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SD/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges Applicant's submission on 4/12/10 including arguments against the previous rejection. All pending claims have been rejected where the previous rejection has been maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17-32, 34-38, 40-47 and 49-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahara and U. S. Patent No. 6, 236, 398 B1 (Kojima et al.), herein referred to as Kojima.

As per claims 17 (method), 24 (apparatus), and 52 (user interface), Takahara discloses a method comprising

determining the positions of a set of at least two alternatives in the space surrounding a user on the basis of their direction with respect to the user so that the locations of the positions remain substantially the same with respect to user irrespective of the location of the user (Figure 1 and column 2, lines 55-67). Takahara teaches the user surrounded by alternatives within a three dimensional space, with the positions being respective to the user irrespective of the location of the user within this three dimensional space.

Takahara discloses recognizing a first movement of a body member of the user for moving to a position corresponding to a desired alternative with the holding of the alternative being the first movement, the alternative that is held is the desired alternative (column 4, lines 4-8).

Takahara discloses recognizing a second movement in the position corresponding to the desired alternative and in response to the second movement, recognizing a selection of the desired alternative as completed. Takahara disclosing the flipping as the second movement and with this flipping movement by the arm determining that the user chooses to delete a selected alternative. See column 4, lines 4-8.

Takahara also discloses providing the recognizing selection as an output with the output displaying deleting of the alternative.

Takahara, however, does not disclose that the alternatives surround the user and that the positions are sectors on an arcuate area and first movement comprises moving the member of the body to a certain sector on said arcuate area.

Kojima discloses a method for selecting alternatives in an environment as shown in Figure 2. The user is surrounded by the alternatives at distinct positions as shown in Figure 2 of Kojima. See column 6, lines 22-26. Furthermore, the area surrounding the user with the alternatives include that the positions of the alternatives, which are the icons, are on an arcuate area. The arcuate area holds the positions of the alternatives a-h. The movement of rotation involves using the knob by a member of the body to a certain sector of the arcuate area, the sector including an icon alternative that is to be selected. The positions are surrounding the user, with icons for selection and are

separated by areas arranged to reduce selection errors (Figure 2 and column 5, lines 26-34). Figure 2 displays the positions, which are selectable including a, b and c, each with separating areas between these positions. The separation of the icons and the layout allows for easy recognition and no overlapping with the area, thereby allowing for easier selection with fewer misunderstandings. The movement of a member of the user's body for rotating to the desired selection involves moving to a certain section on the arcuate area to a desired icon, which is placed, between two of the separating areas (Figure 2 and column 5, lines 39-46).

It would have been obvious to one having ordinary skill in the art at the time the invention to learn from Kojima to display alternatives that surround a user with an arcuate area and moving the member of the body to a certain sector on the arcuate area. Both Takahara and Kojima disclose environments, which include alternatives that can be chosen by the user. Takahara further points out that the importance in viewing and accessing as much of the large amounts of data (column 1, lines 17-21), where Kojima by teaching that the alternatives surround the user rather than just in front of the user, teaches displaying more of the large amounts of data at one time. Displaying more of the large amounts of data to the user at one point would allow for the user to access data that is desired from a large pool of alternatives. Therefore, one skilled in the art at the time of the invention would have been motivated to learn from Kojima to display alternatives that surround a user with an arcuate area and moving the member of the body to a certain sector to access data on the arcuate area.

As per claim 24, Takahara discloses that the apparatus comprises a display configured for displaying a set of alternatives (Figure 1). The apparatus also comprises devices that carry out the features disclosed above (Figure 21).

As per claim 45 (system), due to the mostly similarity of this claim to that of claim 17 (method), except for the system comprising: a central processing unit, a three dimensional display device, the central unit comprising a port for communicating positions corresponding to selection alternatives to the three dimensional display device are taught by Takahara (column 5, lines 25-42). This claim is therefore rejected for the reasons as set forth above. Takahara further discloses that on the basis of the direction with respect to the user so that locations of the position remain substantially the same with respect to the user irrespective of the location of the user. Takahara teaches that the elements displayed for the user to access are in distinct positions, where based on movements made by the user, and the direction the user takes with the hand movements, the locations of the positions of the elements remain the same with respect to the user, and with respect to changes in movements made by the user. See column 4, lines 1-10.

As per claims 18 (method) and 25 (apparatus), Takahara and Kojima discloses showing virtual images in each sector showing the arcuate area with a plurality of sectors at the level of the user's waist (Kojima, Figure 2). Takahara and Kojima disclose the sectors of the arcuate area and informing the alternative corresponding to a sector audiophonically (Kojima, column 10, lines 20-55).

As per claims 19 (method) and 26 (apparatus), the limitation of demonstrating the alternative indicated at any given time is taught by Takahara (column 2, lines 48-51), where the displayed alternatives are accessible to the user at any time. These claims are therefore rejected for the reasons as set forth above.

As per claims 20 (method) and 27 (apparatus), the limitation of recognizing the second movement contactlessly is taught by Takahara (column 8, lines 26-32), with the flipping indicating placing a finger in a certain position. These claims are therefore rejected for the reasons as set forth above.

As per claims 21 (method) and 28 (apparatus), the limitation of wherein the first movement is the movement of the user's hand is taught by Takahara (column 7, lines 1-5), the cited example teaching how the hand is used to initiate an input command. These claims are therefore rejected for the reasons as set forth above.

As per claim 22 (method), the limitation of carry out the first function in response to the output is taught by Takahara (column 4, lines 4-6). This claim is therefore rejected for the reasons as set forth above.

As per claims 23 (method) and 30 (apparatus), the limitation of allowing the user to carry out certain second activity with a specific third movement of the member of the body is taught by Takahara (column 4, lines 5-15), teaching a third movement that allows for user to input a different command for a activity desired on the selected alternative. These claims are therefore rejected for the reason as set forth above.

As per claim 29 (apparatus), the limitation of carrying out a first function in response to the second movement is taught by Takahara (column 4, lines 4-6), the second

movement resulting in deleting a selected alternative. This claim is therefore rejected for the reasons as set forth above.

As per claim 31, the limitation of recognizing the second movement carried out by the user in the sector is configured to be attached to the user is taught by Takahara (column 4, lines 4-8), with the flipping command being attached to the user as the user carries out this command on a selected alternative. This claim is therefore rejected for the reason as set forth above.

As per claims 32 (apparatus) and 46 (system), Takahara discloses that the device includes a mobile station (reference number 116, Figure 1), a television apparatus (reference number 100, Figure 1) and an electronic book (reference number 70, Figure 17).

As per claims 34 (method), 40 (apparatus), and 49 (system), Takahara and Kojima disclose that the arcuate area is a selection disc (Kojima, Figure 2).

As per claims 35 (method) and 41 (apparatus), Takahara and Kojima disclose that the first movement is substantially horizontal arcuate movement of the hand to a certain sector of the arcuate area situated substantially in a horizontal plane (Takahara, Figures 7 and 9), where an example of a first movement taught in Takahara teaches the movement of the hand is a horizontal movement. The combination of Takahara and Kojima disclose the horizontal hand movements within an arcuate area.

As per claims 36 (method) and 42 (apparatus), Takahara discloses that the second movement is a substantially vertical movement of a hand at a certain sector

(Figure 4 and column 8, lines 18-25), with the movement command taught in this cited example including a vertical movement of the hand and the fingers for determining this command.

As per claims 37 (method) and 43 (apparatus), Takahara discloses that the second movement is placing a hand movement into a certain position at the certain sector (column 4, lines 4-8), where flipping involves placing a hand into a certain position at the certain sector of the alternative to be selected.

As per claims 38 (method) and 44 (apparatus), the limitation of determining the sectors of the alternatives are determined in the space surrounding a user also on the basis of their distance with respect to the user is taught by Takahara (column 2, lines 55-65), where the alternatives are placed with respect to the user based on distance for sight and movement of body relative to the alternatives. These claims are therefore rejected for the reasons as set forth above.

As per claim 47, the limitation of recognizing is a camera is taught by Takahara (column 14, lines 3-6). This claim is therefore rejected for the reasons as set forth above.

As per claim 50, the limitation of wherein the three-dimensional display device and the device configured for recognizing are comprised in the same unit is taught by Takahara (column 5, lines 25-45). This claim is therefore rejected for the reasons as set forth above.

As per claim 51, Takahara discloses that the three dimensional display device is configured as virtual glasses (Figure 1 and column 5, lines 30-32).

Referring to claims 53-56, Takahara discloses that the camera is configured for recognizing the first movement using a first member of the user's body and making the second movement using a second member of the user's body. Takahara discloses that the first and second members of the body are a common member of the body of the user and the first member of the body the body is a hand and the second member of the body is the fingers of the hand. Takahara teaches movements including first and second movements that require movement of the hand and further movement of the fingers for the users to choose a command to be applied to a selected alternative. See column 14, lines 3-6.

3. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahara and Kojima and further in view of Kumar et al. (USPN: 6,624,833) hereinafter Kumar.

As per claim 48, Takahara-Kojima discloses the invention substantially as claimed above. Takahara-Kojima, however, do not disclose the limitation of wherein the means for recognizing is a shape tape.

Kumar discloses the limitation of recognizing is a shape tape as the technique of the system 10 can of course be utilizing with other types of information processing devices (see col. 5, lines 33-34).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Kumar's teaching of recognizing is a shape tape into that of Takahara-Kojima combined invention. By doing so, the system would be enhanced

by capable of allowing user to select shape tape device for recognizing and recording user movement in virtual environment.

Response to Arguments

4. Applicant's arguments 4/12/10 have been fully considered but they are not persuasive.

Applicant argues that the combination of Takahara and Kojima do not disclose recognizing a first movement of a body member of the user to a sector on an arcuate area surrounding the user, the sector corresponding to a desired alternative, recognizing a second movement in the sector corresponding to the desired alternative. The Examiner respectfully disagrees. Takahara discloses that user uses hand movements to choose a desired alternative. The user of Takahara makes a first movement to hold an image representing the alternative and then flipping as the second movement. This flipping is carried out at the position at which the desired alternative is. Furthermore, the combination of Takahara and Kojima disclose sectors on an arcuate area. Kojima discloses positions with alternatives that can be selected where the positions are sectors on an arcuate area. This arcuate area surrounds the user and is separated by regions to distinguish one alternative from the other. The user uses an input device which involves the user touching the input device, moving both the user's body member to move the input device and placing both the input device along with the body member to a certain sector on the arcuate area that leads to the selection of an alternative. Each of the alternatives is separated and is in between the separating areas. The sectors are part of the circle with each sector having two radii and an arc at

the top. Figure 2 of Kojima discloses the arcuate area with the positions which are sectors in this area. The input device of Figure 1 in Kojima when moved to for example a position g in the arcuate area would involve the user's hand being rotated to the position g. Therefore the movement of the member of the body is to position g for the rotation device to clearly indicate the position selected. The rotation device which includes the user's hand to rotate the device is to a certain sector therefore the moving of a member of the body also to that certain sector.

Applicant argues that Kojima does not disclose moving a member of the body to a certain sector on an arcuate area surrounding the user. Kojima has clearly disclosed that the user is responsible for moving the rotation knob and placing it to select a desired area from the arcuate area surrounding the user. The use of knob involves using the user's hand to rotate the knob and place the knob with the user's hand to point to a desired position on the arcuate area. Kojima discloses that icon selection occurs by using a rotary turn knob that is turned in two different directions to select the desired icon (column 2, lines 64-67). Figure 2 describes the arcuate area that surrounds the user and where the user positions the knob within this area to select a sector. Furthermore, the arcuate area of Kojima includes areas that separate each of the icons, which can be selected. Therefore, there are separating regions between the selectable positions within the arcuate area. Kojima also discloses that the icons are placed in the arcuate area for easier understanding, without the selectable regions overlapping for reducing errors.

Applicants argue that the combination of Takahara and Kojima do not disclose that the locations of position remain substantially the same with respect to the user irrespective of the location of the user. The Examiner respectfully disagrees. Within the circular menu that is displayed, the menu options remain constant while the user's position moves around the menu to select distinct sectors. The teachings of Kojima suggest features that Takahara can learn from and incorporate into the Takahara's system. The combination of Takahara and Kojima is a combination of the teachings of these references not the physical combination of the structures recited in these references.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Responses to this action should be submitted as per the options cited below: The United States Patent and Trademark Office requires most patent related

correspondence to be: a) faxed to the Central Fax number (571-273-8300) b) hand carried or delivered to the Customer Service Window (located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), c) mailed to the mailing address set forth in 37 CFR 1.1 (e.g., P.O. Box 1450, Alexandria, VA 22313-1450), or d) transmitted to the Office using the Office's Electronic Filing System.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Namitha Pillai whose telephone number is (571) 272-4054. The examiner can normally be reached from 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, Kieu Vu can be reached on (571) 272-4057.

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2100.

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Business Center (EBC) at 866-217-9197 (toll-free).

Namitha Pillai
Patent Examiner
Art Unit 2173
July 6, 2010

/Namitha Pillai/

Primary Examiner, Art Unit 2173